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ANALYSIS OF COMPETITION IN MONGOLIA: THREE CASE STUDIES

April, 1994

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The IRIS-Mongolia Project and the Privatization Commission of the Government of Mongolia recently engaged in a cooperative effort to draft legislation to regulate industry conduct and promote competition in Mongolia's industrial sector. A principal initial component of this effort was an assessment of existing industry structure and government regulatory behavior. The aim of this phase of the project was to identify restrictive business practices and government interventions that impede competition, to assess the extent to which competition exists, and to evaluate the potential for future competition. This knowledge informed the drafting of pro-competition legislation specifically tailored to the Mongolian situation.

In November 1992, studies were conducted of three of Mongolia's primary industries: wool spinning, telecommunications, and meat processing. The studies involved interviews with industry managers, plant tours, and discussions with government officials who had oversight responsibilities for the industries. Mongolian researchers and representatives of the industries gathered data on sales, costs, and prices to identify business conduct and **government** interference that competition policy might address, and to assess the potential for competition in the three industries.

Due to differences in the nature of the data available for the **three** industries, each study followed a unique path. The study of the telecommunications industry stands apart from the others particularly because portions of that industry are considered to be characteristic of natural monopoly. Drawing upon experience in Western economies and the specific information learned about the Mongolian telecommunications industry, this study sets forth potential roles for both competition policy and public utility regulation in this setting.

Common to all three industries was pervasive government intervention, especially at the local level, in firms' day-to-day operations. This legacy of central planning continued in the wool-spinning and meat-processing industries despite nominal privatization of these industries. In the telecommunications **industry** it remained prevalent in spite of legislation establishing the Mongolian Telecommunications Corporation (MTC) as an **independent** body, soon to be privatized. Excessive government intervention was particularly evident in the process of price formation. Invariably prices were set at levels that were too low to allow for needed capital improvements and for the procurement of inputs following the collapse of the centralized planning and allocation systems.

The **studies of the wool-spinning and meat processing industries** revealed:

(1) Difficulties adjusting to the need to arrange independently for the supply of inputs. This is in part because of export and other opportunities newly available to traditional suppliers of raw materials and in part because of inexperience in negotiating sales contracts and poor enforcement of those contracts. Both industries have seen substantial drops in their output of final products as a result.

(2) Continuing government involvement in the allocation of goods.. State orders have perpetuated in the meat industry, for example, **and the government has responded on at least one occasion to lobbying from a firm in the wool industry that had not proceeded with its own private procurement efforts and desired a share of the inputs' for which another firm had arranged independently.**

(3) A dedication to traditional geographical market divisions established under central planning. The difficulties encountered in any attempt to challenge the divisions will be compounded by **Mongolia's weak transportation and communication infrastructure.**

(4) A strong tendency toward collusion in the establishment of procurement prices. In both industries, formal discussions of prices have been held among firms that might otherwise compete, and **there is little recognition of the threat to the benefits of competition that such meetings entail.**

In spite of the obstacles, significant potential for competition was found in all three industries. In the telecommunications industry competition seems plausible in areas other than basic services, such as the provision of cellular communications systems, the installation of customer premises equipment, the reselling of space on leased private lines, and value-added services such as data transmission and video. Entry by private service providers could serve to improve quality, raise output, and obviate the need for direct regulation of prices.

In wool spinning and meat processing, some degree of competition seems possible at all stages of production. The success of competition hinges on the ability to overcome both natural and artificial barriers. Restrictive business practices identified as potential problems included collusion in the determination of prices, the allocation of markets, and the geographical division of selling and procurement areas; mergers that substantially reduce competition; and government restrictions on allocation, pricing, and external trade.

A second phase of IRIS's overall assistance with the development of competition policy in Mongolia consisted of policy assistance related to the drafting of an anti-monopoly law. This joint effort between IRIS and the Mongolian government resulted in a draft law that was submitted to the Mongolian Parliament and in large measure incorporated into an anti-monopoly law passed by the Parliament in July 1993.

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INTRODUCTION AND SUMMARY

The IRIS-Mongolia Project and the Privatization Commission of the Government of Mongolia recently engaged in a cooperative effort to draft legislation to regulate industry conduct and promote competition in Mongolia's industrial sector. A principal initial component of this effort was an assessment of existing industry structure and government regulatory behavior. The aim of **this phase of the project was to identify restrictive business practices** and government interventions **that** impede competition, to assess the extent to which competition exists, and to evaluate the potential for future competition. This knowledge informed the drafting of pro-competition legislation specifically tailored to the Mongolian situation.

During the first two weeks of November 1992, the authors, together with **the IRIS-Mongolia** Coordinator (Georges Korsun) and researchers **from** several Mongolian academic institutions, conducted studies of three industries: wool spinning (led by Karen **Dunn**), telecommunications (led by William Kovacic), and meat processing (led by Robert Thorpe). The industries for these case studies were selected to balance two criteria. First, the limited number of industries to be investigated dictated that those selected exhibit as broad a range of structural characteristics (e.g., number of firms, ownership structure, product and geographic market, capital intensity) as possible. Second, the lack of Western-style analyses of the Mongolian economy suggested that additional benefits would accrue to the government from an examination of the most significant sectors in the economy, irrespective of their current structural characteristics.

The studies involved interviews with industry managers, plant tours, and discussions with government officials who had oversight responsibilities for the **three** industries. The Mongolian researchers and representatives of the industries gathered data on sales, costs, and prices in advance of the IRIS visit., and these data were evaluated. Through this process we identified business conduct and government **interference** that competition policy might address, and we assessed the potential for competition in the three industries. Meetings held throughout the studies with the Mongolian researchers provided the opportunity to help them analyze how antimonopoly principles might be applied. Discussions of the methodology used for the industry studies served as guidance for the Mongolian researchers in undertaking their own studies of competitive conditions in other industries. (**The Mongolian** Government Coordinator, the researchers, and the persons interviewed are listed in the Appendix.)

This paper presents **the** results of **the three** industry studies and their practical implications for the development of competition and competition policy in Mongolia. Due to differences in the nature of the data available for the three industries, each study followed a unique path. The study of the telecommunications industry stands apart from the others particularly because portions of that industry are considered to be characteristic of natural monopoly. Drawing upon experience in Western economies and the specific information learned about the Mongolian telecommunications industry, this study sets forth potential roles for **both competition policy and public utility regulation in this setting.**

Many similarities among the observations and conclusions of the studies surfaced, shedding light on the general prospects for competition in Mongolian industry. Common to all three industries was pervasive government intervention, especially at the local level, in firms' day-to-day operations. This legacy of central planning continued in the wool-spinning and meat-processing industries despite nominal privatization of these industries. In the telecommunications industry it remained prevalent in spite of legislation establishing the Mongolian Telecommunications Corporation (MTC) as an independent body--allowed in theory to set its own tariffs--and in spite of discussion of privatizing MTC in the near future. Excessive government intervention was particularly evident in the process of price formation. Invariably prices were set at levels that were too low to allow for needed capital improvements and for the procurement of inputs following the collapse of the centralized planning and allocation systems.

A number of common themes emerged from the studies of the wool-spinning and meat-processing industries. Notable among these are the following:

- *Difficulties adjusting to the need to arrange independently for the supply of inputs.* This is in part because of export and other opportunities newly available to traditional suppliers of raw materials and in part because of inexperience in negotiating sales contracts and poor enforcement of those contracts. Both industries have seen substantial drops in their output of final products as a result.
- *Continuing government involvement in the allocation of goods.* State orders have perpetuated in the meat industry, for example, and the government has responded on at least one occasion to lobbying from a firm in the wool industry that had not proceeded with its own private procurement efforts and desired a share of the inputs for which another firm had arranged independently.
- *A dedication to traditional geographical market divisions.* These divisions were established under central planning. The difficulties encountered in any attempt to challenge the divisions will be compounded by Mongolia's weak transportation and communication infrastructure.
- *A strong tendency toward collusion in the establishment of procurement prices.* In both industries, formal discussions of prices have been held among firms that might otherwise compete, and there is little recognition of the threat to the benefits of competition that such meetings entail.

In spite of the obstacles, significant potential for competition was found in all three industries. In the telecommunications industry competition seems plausible in areas other than basic services, such as the provision of cellular communications systems, the installation of customer premises equipment, the reselling of space on leased private lines, and value-added services such as data transmission and video. Entry by private service providers could serve to improve quality, raise output, and obviate the need for direct regulation of prices.

In wool spinning and meat processing, some degree of competition seems possible at all stages of production. The success of competition hinges on the ability to overcome both natural and artificial barriers. The meat processing industry study presents calculations of Herfindahl-Hirschmann Indexes under several sets of assumptions and discusses their implications for competition. Several restrictive business practices that either exist or may soon arise in the wool-spinning and meat-processing

industries were identified. These include collusion in the determination of prices, the **allocation** of markets, and the geographical division of **selling** and procurement areas; mergers that substantially reduce competition; and government restrictions on allocation, pricing, and external trade. The potential for such **practices** to **compromise** competition in **these** industries argues **for particular** vigilance toward them on the part of a pro-competition agency.

A second phase of IRIS's **overall** assistance with the development of competition policy in Mongolia consisted of a policy-assistance trip in **early** 1993 during which William Kovacic and Robert Thorpe shared their legal expertise with a group of **Mongolian** officials who were assigned **the** task of **drafting** an antimonopoly law. This joint effort between IRIS and the Mongolian government **resulted** in a draft law that was submitted to the Mongolian Parliament and in large measure incorporated into an antimonopoly law passed by the Parliament in July 1993. For details of the law drafting process, the 1993 law **itself**, and the prospects for its successful **implementation**, see Kovacic and Thorpe, "Antitrust and the Evolution of a Market Economy in Mongolia," December 1993.

PART I

Wool Spinning industry Study

A. Introduction

This Part discusses and analyzes characteristics of the wool-spinning industry in Mongolia **that** reflect its capacity for competition. There are four producers of spun wool in Mongolia: the Ulaanbaatar Wool Spinning Factory (WSF) and the wool-spinning departments in Mongolia's three carpet factories. The WSF is the hugest producer of spun wool and the only one that sells its output. Each of Mongolia's three carpet factories--located in Ulaanbaatar~ Erdenet, **and Dornod--produces spun** wool to fulfill at least part of its internal requirement for this input.

An investigation of competitive potential in the market for spun wool requires the study of several stages of wool processing in addition to spinning. Raw wool is purchased **from** herders or companies representing them and then washed by one of three wool-washing factories. The washed wool is then sold to the wool spinners. The carpet factories spin wool for their own internal use, while the WSF sells its spun wool to downstream processors: manufacturers of textiles, knitwear, and carpets. Each of these markets--for raw wool, for washed **wool**, for spun wool, and for final products--will be discussed to some extent.

The WSF produces 76 percent of Mongolia's total output of spun wool. If the carpet **factories** were spinning wool at full capacity, the director of the WSF said he believed his firm would produce only 45 percent of the total domestic demand. Recent **difficulties** in the procurement of raw wool, however, caused the carpet factories outside the capital city to bring their spinning operations **practically to a halt., thereby increasing the WSF's market share.**

A similar phenomenon occurred in the market for washed wool. If all three factories were producing at full capacity, the Ulaanbaatar wool-washing factory (**UWF**) would produce **65 percent** of Mongolia's output of washed wool. It produces more than that, however, because it has been more successful than the other wool-washing factories in obtaining good-quality raw wool. Although the three wool-washing factories--located in Ulaanbaatar (central), **Bayan Olgiy** (west), and **Dornod (east)**--were designed under central planning to obtain raw wool and distribute their output within their respective **geographical** regions, the UWF has historically provided part of the washed wool used by the carpet factories outside Ulaanbaatar because of differences in the quality of wool available in the different regions. More recently, **UWF's** share of the domestic market for washed wool has increased because the **Bayan Olgiy** factory has exported nearly all of its washed wool, leaving the Erdenet carpet factory's spinning department even more dependent than usual upon the UWF.

B. Description of the Industry

1. Firms Connected with the Industry

The IRIS team interviewed representatives of the WSF, its one supplier of washed wool (the UWF), and two of its customers (the textile factory and the Ulaanbaatar Carpet Factory). The UWF is important to the wool-spinning industry because it is the largest wool-washing factory and it supplies all of the WSF's washed wool. As will be seen later, the WSF has begun procuring raw wool directly but even this wool is sent to the UWF for washing. The textile factory is important because it buys 51 percent of the WSF's output and the WSF is its only supplier of spun wool. The Ulaanbaatar carpet factory is important because the carpet factories' spinning departments are potential competitors with the WSF, it is the largest and highest-quality-producing carpet factory in Mongolia, and the WSF is its only external supplier of spun wool.

The following outline presents some general information on each of these firms:

The Wool Spinning Factory

- **Constructed in 1981 with Soviet technical assistance and East German equipment, which has never been updated and for which spare parts are no longer available.**
- Number of employees: 1,200.
- Annual capacity is 3,000 tons of wool thread. Between 1989 and 1991, annual output fell from 2,961 tons to 2,109 tons.
- Primary customers: the textile factory, Knitwear Factory II, and the carpet factories in Ulaanbaatar and Erdenet.
- 15 percent of its output is exported: the countries to which it exports are Russia and Afghanistan.
- Until 1984 it was part of the textile factory.

The Ulaanbaatar Wool-washing Factory

- Constructed in 1979 with credit from the CMEA; uses Polish equipment that is more than a decade old.
- Number of employees: 400.
- Annual capacity is 6,500 tons of washed wool. By November of 1992, it had produced only 4,000 tons that year.
- Customers include the WSF and all the carpet factories, at least to some extent, though it was designed to serve only the Ulaanbaatar area.

- 40 percent of its output has traditionally been pure white wool, which it has sold to domestic downstream processors. Of the remaining 60 percent, which is of lower quality, some has been sold to felt factories, but most has been exported. The firm responded to its recently reduced level of output and the attendant domestic excess demand for its product by increasing the proportion of its output sold domestically to about 60 percent (domestic buyers have accepted a lower average quality level). The factory currently exports to Russia, China, and New Zealand.

Textile Factory

- Constructed in 1959 with Chinese technical assistance; equipment was updated and operations were expanded with Soviet technical assistance in 1970 and again in 1989.
- Annual capacity is 1.3 million square meters of cloth.

The Ulaanbaatar Carpet Factory

- Produces about 60 percent of its own spun wool.
- Has the human capital needed to expand production but lacks the financial capital; according to factory representatives, an investment of US\$8 million in a new production line would increase its production of spun wool by 80 percent, which would allow it to produce all of its own spun wool.
- Until recently 60-70 percent of its output was exported, nearly all to CMEA countries; exports essentially evaporated following the collapse of the CMEA, but now 40 percent of its output is exported, and exports are expected to increase; the countries to which it currently exports are Austria, Hong Kong, Finland, and Japan.

2. Supply of Raw Wool

According to one Mongolian source, the supply of raw wool to the wool industry fell in 1991 by 50 percent, causing a comparable drop in the output of all wool processors. The World Bank estimated that output of carpets and knitwear declined that year between 20 and 30 percent. A direct cause of this decline is the large differential between the export price for raw wool and the price offered by domestic purchasers: the export price is often three to four times the domestic price. Exports of raw wool have risen dramatically. In November 1992, for example, individuals and companies in Gobi Altai aimag, which normally provided 1,200 tons of raw wool to the domestic wool industry annually, had provided only 200 tons that year, having exported 1,000. Not only are export prices more attractive to herders and the companies representing them, but wool can often be exported in exchange for consumer goods that are difficult to obtain in Mongolia, both by raw-wool suppliers and by the domestic buyers of raw wool.

A second cause for the decline in raw-wool supplies is the difficulties inherent in adjusting to a new supply system. Under the old system, the wool-washing factories sent representatives to the aimag centers in their regions to establish contracts with the collective farms. These collective farms have now been broken up into separate companies, and each must now be negotiated with independently.

The absence of enforceable contracts has created problems in the procurement of raw wool: even when contracts are signed with the **wool-washing** factories, they are frequently breached because better offers are obtained for export. The UWF, for example, had received by November 1992 only half of the raw wool for which it had contracted that year. Unreliable supplies of fuel during the transition period and inadequate transportation infrastructure also have contributed to the **difficulties** encountered in the procurement of raw wool. Further, once the mandatory central procurement system was dismantled, some herders began setting up their own small felt-making operations on a local basis, rather than selling their wool for further processing.

The reduction in the volume of raw wool that the wool-washing factories were able to procure motivated the WSF to begin procuring some of its own raw **wool** directly **from** herders and **companies** representing them. This raw wool was then sent to the UWF for washing. The necessity of **undertaking this activity** was not recognized by most others in the wool industry during the 1992 procurement season, but direct purchase of raw wool by the other wool-spinning facilities and by some of **WSF's** principal buyers seemed likely to begin in the near future.

The wool-spinning departments of the Erdenet and Dornod carpet factories virtually stopped operation because of their lack of success in obtaining supplies under the new system. The **Bayan Olgiy wool-washing** factory, which traditionally supplied the Erdenet carpet factory with about **half** of its washed-wool supplies, was reported to have exported nearly all of its washed **wool** in 1992. The carpet factories were accustomed to having the government support their procurement of inputs and had not yet taken the initiative to secure their own supplies. The Erdenet and **Dornod** factories instead lobbied the Ministry of Trade and Industry to force other firms in the wool industry to provide washed and spun wool for them. On at least one occasion, the Ministry was persuaded into action along these **lines**: some pressure was put on the **Ulaanbaatar** wool-washing factory to supply the Erdenet **carpet** factory with washed wool, the raw wool for which had been procured by the WSF and designated for its use. **Officials** of the WSF argued to the Ministry that the Erdenet and **Dornod** carpet factories were to blame for their own **difficulties because of their lack of initiative in seeking their own supplies.**

The government reacted to the reduced supply of raw materials to the domestic market by considering the introduction of a complete prohibition on the export of raw wool and leather. The Mongolian experts in the wool industry seemed unanimously to support this **policy**, in spite of the 'restriction it places on 'competition.

None of the wool-washing factories had so far attempted to procure raw wool **from** aimags that traditionally served another factory, and the wool spinners had not yet tried to bid for washed wool from the three different **wool-washing** factories. Transportation **difficulties** remain daunting, but perhaps most important is a reluctance to challenge the traditional allocation system, whereby the washing factories each were expected to procure raw wool and supply washed wool in their own geographical areas.

Nonetheless, there are winds of change. Those responsible for the operation of firms in the industry are not willing to see a continuing pattern of depressed production. The need to match export prices in order to obtain adequate supplies is well recognized by the WSF, which has met with other wool processors to impress this upon them, and there is discussion within the UWF of seeking supplies from non-traditional regions if supplies are not forthcoming **from** more familiar sources. The UWF is committed to expanding its efforts to obtain supplies and to adjusting to the needs of the new system: it intends to establish a resident representative in each of the aimag centers where it expects to procure

wool: this representative will be able to procure wool on **the spot**.

3. Pricing

The wool industry has been nominally privatized, with no government ownership, but the price mechanism has scarcely become evident. One repeatedly hears **from** officials of wool-processing firms, in one form or another, that those firms have a responsibility--beyond that associated with maximizing profits--to keep in mind the low purchasing power of the population when deciding on prices. There is a strong cultural bias against raising prices sufficiently for supply and demand to meet at a level where consumption is very low. That "ordinary people" will suffer from an inability to afford final goods at market prices is often given as the reason for refusing to raise the prices offered for inputs, even when this results in tremendous shortages.

The rigid system for allocating inputs that existed under central planning is still very much evident in the wool industry. At this time of shortage, for example, representatives of the UWF are **concerned with supplying the firm's traditional customers first and intend to think about supplying** new customers only if at some point in the future they have additional output. To the extent that this reflects the firm's wish not to disrupt its relations with longstanding and faithful customers during difficult times, this might be quite reasonable, but two questions then arise: (i) Is allegiance to traditional allocations itself preventing competition for washed wool? and (ii) Are there vertical agreements among the firms involved that prevent this competition? These questions will be answered **only** once the industry has had more experience with a market environment.

One factor reinforcing the commitment to traditional allocations became apparent during **an interview** with officials of the UWF. These officials expressed great concern **about** what their customers do with their washed wool. They are comfortable selling to their traditional customers because they have confidence that these firms will further process the wool for eventual consumption by the Mongolian population. If instead they sell to new entities that offer higher prices for **the** washed wool, they fear the wool will be exported.

The General Director, of the WSF, however, said he was beginning to consider altering the WSF's traditional portfolio of customers in order to reduce the market power of his two principal buyers: the textile factory and **Knitwear** Factory II. In particular, he envisioned increasing sales to the carpet factories, decreasing sales to the textile factory, revising the relative amounts sold to each of the **knitwear** factories, and--perhaps most important for competition--increasing sales to small, **newly** emerging producers of **knitwear** and carpets. He expected he could obtain better prices from other buyers and that the emerging firms would have an incentive--absent in the traditional buyers, who were accustomed to substantial market power--to improve the quality and assortment of their products, which would in turn increase demand for their products and indirectly increase the demand for spun wool. Sales to small producers accounted for only about 2 percent of the WSF's total sales in 1992.

Prices in the industry have been nominally liberalized, but prices and cost calculations for both washed and spun wool are still submitted to local price commissions. The commissions review the firms' **cost** calculations and issue "endorsements" of their output prices. Decisions on prices are therefore largely based on the firms' concerns about how the government will view the fairness of its prices, given the costs it succeeds in justifying, not on how it can maximize **profits**. There has been very little--if any--testing of what prices a firm can get in the market.

The price for spun wool remains depressed largely because of political pressures, or perceived political pressures, on the WSF.¹ The firm's General Director expressed a belief that the WSF had been singled out by many government figures as having market power, and comments made during a meeting the Study Team held with several members of Parliament who are influential in this area supported the General Director's fears. The WSF faces the threat that if it raises its prices or increases the export of its product, its two most important buyers will complain to the Ministry of Trade and Industry, which in turn will impose price controls. Such complaints are anticipated even though buyers of spun wool are well aware that domestic prices for wool thread are substantially below import prices; **officials** of the textile factory said that price differentials of two to five times account for their lack of interest in buying thread from China or **Russia**. Further, the Study Team found no indication that the WSF's customers were viewed as having market power, even though the textile factory, for example, is the only Mongolian producer of textiles and purchases more than half of the WSF's output.

The General Director of the WSF said he feared that the firm will be forced into bankruptcy unless it succeeded in raising its prices. One difficulty facing the WSF is **soaring** debt payments as interest rates on its loans continually rise. Because of the seasonal nature of wool procurement and processing, money was in the past borrowed **from** the government on a seasonal basis and repaid during the year. The **difficulties** encountered in repaying the loans caused the government to be **increasingly** reluctant to provide loans sufficiently large to allow the usual volume of operation. The tax structure in place at the time of this study exacerbated these hardships for the WSF, as it favored small firms over large ones and did not allow the deduction of interest payments **from** taxable income.

The first three negotiations between the WSF and the textile factory on the price of spun wool took **place** in April, September, and November of 1992. According to the General Director of the WSF, the September negotiation resulted in a price calculated as the WSF's costs plus 25 percent, but because of increases in the price of wool, the price quickly became effectively costs plus 10 percent. What exactly was included in these costs is unclear: during our second interview, which took place between the second and third negotiations, he suggested that payments on the factory's **debt--** accurately taking into account high interest rates--had not previously been included in costs but would be in future negotiations. Agreements on prices seemed to be reached amicably, in spite of the importance of the price to each **firm**, because of friendship between the firms' managers and acknowledgement that the two firms are dependent upon each other and therefore must reach agreement.

The third such negotiation involved a meeting of all significant firms in the wool industry, including the WSF, the UWF, the two main **knitwear** factories, the three carpet factories, the textile factory, and others. The Ulaanbaatar Price Commission had responded to complaints **from Knitwear** Factory II about high prices for spun wool, primarily out of concern over resultant high prices for children's wear. Such disagreements over what constitutes a fair price were on the agenda of this meeting.

¹ The political strength of the WSF is unclear. In our first meeting, the general director expressed a complete lack of confidence in his ability to influence government policies **affecting** his business, and he said he had no opportunity to contribute to political campaigns. Between our first and second meetings, however, he had met **with** a member of Parliament to discuss the draft tax laws under consideration and felt optimistic that his comments **might** make their way into the policy process.

This November meeting was an initial step toward establishing a union of wool processors to coordinate actions of the firms in the industry. The firm representatives present discussed the shortage of raw wool and agreed that the domestic price offered for this input would have to increase, though a specific price for raw wool was not determined. Customers of the WSF were warned at the meeting that this would mean output prices that are on average **one-third** higher; some said they would respond by reducing their purchases.

The market for carpets experienced price increases exceeding those of other final products in the industry. These prices may have been allowed to rise because carpets are viewed as less vital a consumption good than clothing. Differentiation in the prices charged for spun wool appeared to have emerged for the first time during the 1992 negotiations. Prices were negotiated separately with each major customer: the price for the carpet factories increased by 50 percent while the prices for the textile and **knitwear** factories increased by 20 and 30 percent respectively.

Adding to the complications involved in market transactions in the industry is the fact that barter **is often used as the means of exchange**. According to officials with the WSF, suppliers of raw wool demanded 30 percent of their payment in the form of consumer goods. Officials with the UWF said they were paying nearly 50 percent of the price of raw wool in the form of consumer goods. **Obtaining these goods, rather than paying for inputs with currency, is a difficult and time-consuming process.**

4. Vertical Integration

Substantial vertical integration has taken place in the industry as a means of avoiding the supply **difficulties** and impediments to free pricing that have characterized the market during the transition. The Ulaanbaatar carpet factory, for example, would like to expand its internal spinning facilities in order to improve its chances of having continuous supply. The WSF is planning to expand into wool washing and has started facilities for producing downstream products such as knitwear, carpets, cashmere, and non-woven products made from recycled scrap. In the short run, given the industry's fragmented intermediate markets, this increased vertical integration may be **efficiency-enhancing**. It remains unclear how vertically integrated the industry **would** be under competitive circumstances.

The General Director of the WSF expressed the view that the obstacles he faces to raising his prices for spun wool could be bypassed by selling final goods at market prices. The many buyers of these products would not present to the government as strong and united an objection as his few buyers of spun wool are able to, and expanding his production into final goods for domestic consumption would not be as objectionable to the government as would exporting his spun wool. He **thus seems** to view downstream **integration** as a possible avenue for avoiding the informal price controls that permeate the intermediate market.

5. Product Differentiation

The question of whether competition is viable in the wool-spinning industry, and to what extent, rests largely on the issue of how willing or capable the carpet factories are to expand their wool-spinning capacity. The IRIS team found them producing only for internal consumption, with difficulties acquiring raw wool having all but shut down the wool-spinning operations of the carpet factories outside the capital city. The Ulaanbaatar carpet factory produces about 60 percent of its own

spun wool, and its managers would like to expand that capacity to 100 percent. At this stage their **focus** is on obtaining enough supplies to maintain their normal level of production and meet their own internal needs. The idea of selling spun wool on a large scale remains very remote, but there is a precedent for selling to **small** weaving plants those colors or types of spun wool that the factory is no longer using.

There was disagreement over whether the spun wool produced by the carpet factories could be used interchangeably among them and whether it could be used by the textile factory. The General Director of the WSF said useful exchanges among the carpet factories, and sales from them to the textile factory, would be technologically feasible with no adjustments whatever. Representatives of the **Ulaanbaatar** carpet factory agreed that the textile factory should be able to use threads designed for **carpets**, but representatives of the textile factory itself disagreed. Representatives of the **Ulaanbaatar carpet factory reported** that the opportunities for exchanging spun wool among the carpet factories were technologically limited because their factory uses thin, combed-wool threads while the other carpet factories use thicker, carded-wool threads.

The only area of agreement on the degree of product differentiation in the market for spun wool rests on the threads made for knitwear: the WSF is the only producer currently capable of spinning **these** threads. The **WSF's** General Director indicated that the **Ulaanbaatar** carpet factory would be able to re-tool to produce this type of thread with the least **difficulty**, but that it had no incentive to do so because **knitwear** is not currently a profitable enterprise. Two big knitting facilities were constructed under central planning, and they are each much larger than necessary for minimum efficient scale and much larger than is typical for knitting facilities in market economies.

C. Competitive Analysis

1. Competitive Analysis

There is currently virtually no competition in the wool-spinning industry. Prices, even **though** they are negotiated between buyers and sellers, continue to be based on **justifications** of costs rather than on a genuine profit motive. This is partially because of fear of government interference if a **firm** charges a price that is deemed too high and partially because of a tradition of taking an active concern about the ultimate uses of one's output and the effect of the prices of final goods on the welfare of consumers. Prices for spun wool are so low that there is no incentive for new firms to enter the industry or for the wool-spinning departments in the three carpet factories to expand production beyond the level needed to fulfill the carpet factories' internal needs.

The government's pursuit of restrictions on the export of raw wool reflects an interest in protecting certain industries and a lack of commitment to allowing **free** prices in the industry. If instead domestic buyers of raw wool were forced to match export prices, and prices for processed wool therefore rose, then competition **from** imports would be possible throughout the wool industry. This added competition could be very important in the markets for both washed and spun wool, where the market is extremely concentrated. If the WSF and the UWF faced competition from imports, their market power would be reduced.

There is great potential for collusion in the industry. Managers of the various firms are **often** friends, and there is a tradition of working together to make decisions **about** prices. The November 1992 meeting of wool processors, in which preliminary discussions took place about increasing the

offer prices for raw wool. demonstrates this tendency. Also, the loyalty officials of the UWF have to their traditional customers suggests that **vertical** agreements in which **firms** agree to buy or sell only to certain other firms might emerge. In some cases, though not all, such agreements can be damaging to competition.

Several other factors demonstrate the lack of competition in the industry. **Geographical** divisions of the market established under central planning are still observed for the procurement of **raw** wool and the sale and procurement of washed wool. Bidding for raw **wool** has not yet taken place, even though the prices paid domestically for this input are substantially below export prices. The absence of an effective means for enforcing contracts has left **firms** without confidence that their contractual arrangements will be **carried** out. Finally, confronted with supply shortages, some important firms in the industry continue to look to the government to interfere in the market on their behalf, and the government seems willing to entertain their requests.

The **artificial** barriers to competition in the wool-spinning industry thus include such factors as government interference in domestic pricing and allocation, government restrictions on exports, and the possibility of collusion among firms. In addition there are natural barriers to competition: the industry is very capital-intensive, and its minimum efficient scale requires a large investment, making entry into **the** market difficult.

In spite of the current lack of competition, however, there appears to be some competitive potential in the industry. The nature of the technology required to produce spun wool is complicated and expensive enough that there are never likely to be more than a few profitable wool-spinning operations in the country, but this high concentration in itself in no way precludes healthy competition. Competition might arise if the government adopted a pro-competition policy approach that worked to prevent artificial barriers. **Successful** competition could only emerge in the industry if, for example, (i) indications of collusion were investigated and the parties to collusion were subject to substantial penalties; (ii) restrictions on imports and exports were not pursued; and (iii) prices were allowed to rise uncontrolled for some period of time so that the industry were free to experience entry, exit, expansion, and downsizing motivated by market forces.

The WSF remains the only seller of spun wool, but not the only producer. If the other producers--the spinning departments in the three carpet factories--were able **to** expand their spinning operations and chose to do so, it is quite possible that they could compete successfully in the market for spun **wool**. Whether their current **technology** would allow them to produce threads that could be used externally is not yet clear, but with proper incentives to enter the market it would appear that adjusting their technology to accommodate other uses for their thread would be possible. The Ulaanbaatar carpet factory already has a precedent for selling to small weaving plants those colors or types of spun wool that the factory is no longer using. One new production line reportedly could increase this factory's output of spun wool **sufficiently** for it to fulfill **all** of its own need for this input, which it appears determined to accomplish before considering the sale of its thread.

Further enhancing the likelihood of viable competition is the dedication evident in firms such as the WSF, the textile factory, and the **UWF** to resolving the **difficulties encountered** during the adjustment to the new system of procuring raw wool. The users of raw and washed wool are beginning to recognize the types of efforts that will be needed to ensure a reliable supply of raw wool, **including new procurement methods and increased prices.**

There is competitive potential at other stages of wool processing as well. A new business opportunity has emerged for middlemen to specialize in the procurement of raw wool from different aimags and to offer their services on a contract basis. In the production of final goods manufactured with spun wool, there is potential for a large number of small firms to flourish. Small firms producing carpets and **knitwear** are beginning to enter the **industry**. Some believe that new, smaller textile producers could be viable, especially in the production of goods other than blankets. A second large textile factory is under construction in Bayan Olgiy aimag, under supervision of the state.

2. Restrictive Business Practices

There are six important restrictive business practices (**RBP**s) that an agency responsible for pro-competition policy in Mongolia might be careful to prevent in the wool-spinning industry. The first is collusion. There are already signs **that** horizontal agreements about the **prices** to offer for raw wool are either existing or imminent. Further, the small number of firms in the industry and the familiarity of their managers may make collusion easy. There are only three wool-washing factories, **and they could** be tempted to fix the price for washed wool or **to** agree to restrict supply in **an effort** to raise the price artificially. There is never likely to be a large number of firms **selling** spun wool, so these firms similarly may be tempted to fix the price for their output or to restrict supply. The **buyers'** market for spun wool is also concentrated, so firms like the textile factory and Knit-wear Factory II could be tempted to rig their bids for spun wool. Additionally, the pro-competition agency might be attentive to indications of vertical agreements between buyers and sellers in the industry. Vertical agreements might emerge as a continuation of the rigid system of allocation that was imposed under central planning. Such agreements are not always damaging to competition, but their effects should be carefully observed.

The small number of firms in the industry and the familiarity of their managers **could result in** a second type of RBP: mergers that substantially damage competition. Firms may choose to merge as a means of avoiding restrictions on their ability to collude. Before a merger is allowed, its likely effects on competition in the industry should be reviewed by the pro-competition agency. Mergers that would greatly increase market concentration **and** damage competition to a very large degree should be prevented.

Third, a considerable amount of lobbying for the government to intervene in the market appears to be taking place. One of the **knitwear** factories has complained to the **Ulaanbaatar** Price Commission about the **WSF's** prices for spun wool, for example, and the General Director of the WSF believes that several of his large customers are likely to complain to the government if he raises his prices in accordance with his cost increases. Also, the Erdenet carpet factory has requested government **assistance** in obtaining washed wool from the UWF. Such lobbying represents efforts to obstruct normal market transactions.

Fourth, the Mongolian government itself appears to be creating **RBP**s. This happens whenever the **government** interferes in the market by forcing or encouraging firms to change their prices or their sales allocations in response to the type of lobbying described above. The government further seems willing to place restrictions on exports of raw materials, another potential RBP. If domestic prices do actually rise to match export prices, then competition from imports is likely. In this case, the **pro-**competition agency may want to discourage the government from placing restrictions on imports.

Fifth, a tendency for the wool-washing factories to agree on specific geographical divisions for procurement and sales may develop. The procurement of raw wool and the sale of washed wool presently occurs largely along geographical lines, but this appears now to be more a matter of custom and transportation **difficulties** than agreements in restraint of competition. The geographical divisions were instituted deliberately under central planning, and the **firms** became accustomed to them. (In fact, the UWF has supplied some washed wool to firms outside its region, mainly in response to needs determined by the state rather than to market conditions.) In time, bidding **across** divisions may develop naturally. But because of the small number of firms involved, the pro-competition agency might want to watch for this type of RBP. Similarly, if any of the carpet factories begins to compete in the market for spun wool, the agency might wish to make sure that the sellers of spun wool do not reach agreements to procure washed wool only from their regional washed-wool **suppliers**.

Finally, if the WSF's production costs are lower than those of the wool-spinning departments, as is likely to be the case given the economies of scale in the industry and the relative sizes of their operations, another **RBP** in which the WSF or the UWF might engage is limit pricing at a non-**competitive level**. **Limit pricing is the practice of charging prices just low enough to discourage** potential rivals from entering the market. In some cases, a **firm** that sets its prices in this manner can continue making above-normal profits. While such an outcome is not optimal, depending on the **circumstances it may actually be a satisfactory outcome during the transition since it would at least** keep prices lower than the monopoly level. While there is no evidence that either the WSF or the UWF is engaging in this type of behavior currently, the large market shares of these two firms suggest **that the pro-competition agency might want to watch for limit pricing that results in prices** substantially above the competitive level.

3. The Wool Spinning Factory and Market Power

A determination of the degree of market power held by the WSF can be achieved only once one can observe what happens when the firm is truly free to increase prices. Market power exists when a firm is able to raise its prices without reducing its market share. If all forms of price controls were genuinely lifted and the WSF responded by raising its prices, then the effects on its market share could be assessed. It is possible that a price increase of **sufficient** magnitude for the WSF to begin earning high profits would motivate new entrants into the market, most likely one or more of the carpet factories' spinning departments or foreign suppliers. If after a reasonable period of time—the length of which must be determined by the pro-competition agency—this did not occur, one could conclude that the firm was a true monopolist. This might happen if the government were imposing barriers to competition, if the production costs of **wool** spinning are in fact so great that it is efficient for only one firm to supply the entire market, or if the firm were engaging in limit pricing. If the WSF were found to have market power in the long run, then the agency might consider taking actions **to prevent** the firm from exercising this power, possibly including rolling back its prices.

Two other issues to be addressed are the degree of market power in dealing with the WSF that is held by the WSF's largest customer, the textile factory, and its sole supplier of washed wool, the UWF. The textile factory currently buys more than half of the WSF's output. The WSF's General Director has expressed the hope of reducing his **firm's** dependence on the textile factory as a buyer by seeking out new customers. His success in doing so, and his success in raising the prices he charges the textile factory, will reveal the degree to which the textile factory has this market power. The social and economic **implications** of transactions between two firms with market power are not obvious. If this scenario is determined to exist, its implications would need to be studied **carefully**.

Assessment of the market power of the UWF with respect to the WSF would be similar. The UWF is currently the WSF's only supplier of washed wool, and the WSF has never in the past considered bidding for washed wool from other firms. The difficulties in obtaining raw wool have hurt the wool-washing factories outside the capital city to a greater extent than the UWF, so they are now particularly weak as potential competitors. Officials of the UWF believe the WSF is dependent upon their firm for washed-wool supplies, but it is unclear whether this is because transportation costs make competition among the wool-washing factories inherently infeasible or because of temporary supply difficulties and inexperience with the market. It is possible that under a pro-competitive policy regime these firms would become successful rivals with the UWF. If the UWF were to raise its prices substantially above those of the other wool-washing factories, one could determine the degree of its market power by observing whether it lost any of its market share and how much. Again, the advisability of price regulation or other measures to prevent firms from exercising market power will depend on the outcomes that emerge over time under a more liberal pricing system.

PART II

Telecommunications industry Study

A. Introduction

Market economies ordinarily **presume that competition is the best means for inducing firms to** offer consumers an optimal mix of goods and services, to sell at reasonable prices, and to provide desired levels of quality. The presumption favoring competition is strong but not absolute. In unusual **circumstances, market economies recognize exceptions to the principle that favors unregulated** competition.

Natural monopolies constitute one such exception.² Most market economies rely on a mix of competition policy and direct regulation to motivate firms that supply services in the electric power, telecommunications, postal services, and water distribution sectors, as **well** as in some transportation areas. The public policy response to natural monopoly often entails controls upon rates, **quality**, and entry, coupled with the establishment of mandatory service obligations.

Three considerations guided the choice of telecommunications as a subject for inquiry. First, the Study Team wished to consider how extensively the Government of Mongolia might use competition (and an antimonopoly policy) to improve performance in a sector currently subject to extensive public utility regulation. Second, assuming that a new antimonopoly program will coexist with some form of public utility oversight, the Study Team believed it would be useful to examine what type of regulatory institutions Mongolia should retain for natural monopolies. One question raised by the adoption of an antimonopoly system is what form of oversight should be applied to natural monopolies or other firms that are deemed to warrant extensive regulatory controls. Third, improvements in the performance of the telecommunications sector will play a crucial role in determining the future vitality of many segments of Mongolia's economy. Dramatic improvements in Mongolia's telecommunications system **will** be essential to increase growth in exports, financial services, distribution, transportation, and tourism.

² In general terms, a natural monopoly exists where a single firm can produce the amount demanded at the lowest total cost. For more complete and technically rigorous definitions, see Berg & Tschirhart (1988, 21-52); Panzar (1989, 23-33).

B. Description of the Industry³

The Mongolian Telecommunications Corporation (MTC) is the country's sole supplier of switched voice communications services. MTC is responsible for providing local service, intercity communications, and international connections.⁴ MTC's telephone network consists of over 320 exchanges in local centers. MTC also operates Mongolia's radio and television network and provides postal services.⁵

The trunk network consists chiefly of a broad band- microwave transmission system built and installed by the Soviet Union. Some aimags and local centers are connected to the trunk network by open wire links. The installed base now provides approximately 3.8 lines per 100 inhabitants (Roychoudhury, 1992: 3). Demand for new connections vastly outstrips the system's existing capacity. As of January 1992, Mongolia's telephone exchange capacity of 76,000 was fully utilized, with a waiting list of 53,000.⁶ Service throughout the country is often unpredictable, with extensive delays and poor reception being routine.⁷ Virtually all intercity and international traffic is handled manually; international traffic travels via Intersputnik to Moscow, via an open wire connectinn to the PRC, and via Asiasat to Hong Kong.

MTC's principal priorities are to replace outmoded equipment, to improve the quality of existing services, and to add new services.⁸ For decades tariffs have been set at artificially low levels that fail to reflect the need to make capital improvements. The result has been a gradual deterioration of service as maintenance and equipment replacement were slighted. MTC's most recent major

³ Mongolia's telecommunications industry has been the subject of recent studies by consultants from New Zealand Telecom, the International Telecommunication Union (ITU), and the Touche Ross accounting firm. The New Zealand Telecom and ITU studies have been completed (see Wilkinson and Greig, 1991; Roychoudhury, 1992), and the Touche Ross study is forthcoming. Collectively these studies contain excellent, detailed descriptions of the technical and financial features of the Mongolian telecommunications network.

⁴ Until April 1992, telephone exchanges in Mongolia's larger cities operated autonomously. These exchanges no longer have independent status and are now subordinate to MTC. Officials from the local exchanges and MTC headquarters, respectively, present sharply differing views of the desirability of the unification of the Mongolian telephone network and the centralization of managerial control within MTC. Local exchange managers complain that centralization has greatly inhibited their ability to respond effectively to local user needs. MTC's top managers in Ulaanbaatar respond that the previously decentralized structure created intolerable problems in coordinating service nationwide.

⁵ MTC also acts as the subscription and distribution agent for magazine publishers.

⁶ Approximately 42,000 of the waiting list total are located in Ulaanbaatar. See Wilkinson and Greig (1991: 28).

⁷ See Wilkinson and Greig (1991: 29-30). MTC obtains most of its income from charges for monthly service and from tolls for intercity message traffic. The central government subsidizes operating expenses associated with serving remote areas.

⁸ With the exception of new Alcatel digital lines in Ulaanbaatar, MTC's lines use analog technology. Much of the system's Soviet-built switching equipment is 30 years old. Service interruptions attributable to equipment failures and spare parts shortages are commonplace.

investment has been the installation in Ulaanbaatar of a digital switch supplied by **Alcatel**.⁹ The need for this project and similar capital improvement programs is widely recognized. but, as discussed below, there is little evident political will to allow tariffs to rise to levels needed to generate **revenue** to finance new capital investment.

More than any other group of industry officials whom the Study Team interviewed, MTC's upper-level managers seem well-suited to adapt to a market environment. Through longstanding exposure to a professional culture that requires familiarity with developments in the communications sectors of other countries, MTC's managers demonstrated a sophisticated understanding of competitive and regulatory developments in other market economies. On the whole, they welcomed competition in areas other than basic services (e.g., competition for the placement of terminal equipment and the resale of capacity) to increase output. Given the sophistication of MTC's senior managers, it seems sensible to favor regulatory policies that give these officials greater discretion to formulate and execute service and investment policies.

C. **Future Governance Issues**

1. The Role for Competition Policy.

There appear to be a number of possibilities for competition to operate at **the** periphery of the traditional switched-voice communications network. MTC **officials** seem to welcome entry to provide **cellular communications systems and value-added services such as data transmission and video**. MTC **also** favored permissive policies governing the installation of PBX systems and other customer premises equipment and seemed receptive to reseiling space on leased private lines. Among other reasons, MTC's management viewed such developments as useful means for expanding the country's severely restricted telecommunications capacity. These officials also saw the threat of competition as a valuable stimulus to promote innovation and managerial discipline within MTC.

To facilitate entry and expansion in these service areas, a procompetition policy might entail adoption of non-discrimination requirements as part of a new **antimonopoly** system or as part of the **telecommunications** regulatory regime. A non-discrimination requirement **would preclude MTC from** refusing access to its network except where reasonable business considerations justify restrictions. As one illustration, such a policy would favor interconnection unless neutral technical factors suggest that **interconnection would be inappropriate**. MTC's interconnection **and standards-setting policies would either** be subject to antimonopoly scrutiny or, if new antimonopoly legislation is not enacted, **regulatory officials might adopt administrative** standards that govern interconnection into the MTC network.

2. The Role for Public Utility Regulation.

Existing Organizational and Regulatory System. Since April 1992, MTC has operated as a distinct entity, independent from the Ministry of Road, Transportation and Communication (**MRTC**). The legislation that established MTC as an independent body allows MTC to set its own tariffs and

⁹ **The** central government purchased the **Alcatel** equipment and is requiring MTC to repay its cost plus 15 percent interest.

collect its own revenues.” The Ministry retains authority to review and modify MTC’s rates. MRTC also is responsible for executing broad policy oversight, while MTC is delegated responsibility for operational and commercial decisions affecting the communications network.

Flaws of the Current Regulatory Mechanism. The existing regulatory scheme suffers from a number of procedural and substantive deficiencies. Four basic flaws beset the system. First, MRTC appears frequently to violate the division of labor that delegates to MTC responsibility for day-to-day operational decisions. MTC officials identified a number of instances in which the Ministry has intervened to question MTC decisions about such matters as the location of new lines and the priority for establishing new service links.

Second, no clear lines of authority exist for the oversight of MTC’s tariffs. It is evident that local governments (such as the City of Ulaanbaatar) have asserted and exercised veto power over rate increases whose reasonableness, in theory, should exclusively be the Ministry’s concern.” Ministry and MTC officials said the legislation that reorganized MRTC and MTC failed to establish precisely what role MRTC would play in overseeing tariffs. For this reason, and owing to local pressures to roll back much-needed rate increases, municipal officials have forced MTC to curb certain tariffs.*

Experience with the new Alcatel switch in Ulaanbaatar illustrates the phenomenon. The capital cost of the Alcatel system is approximately US\$360 per installed line. To help pay for this investment, MTC attempted to raise the monthly charge to residential users in the affected service area from 20 Tugriks to 180 Tugriks. The mayor and city council of Ulaanbaatar opposed the rate increase and forbade MTC to raise rates above 60 Tugriks per month. Citizens in Ulaanbaatar ordinarily pay their utility bills at the bank, and the Ulaanbaatar government has directed the local bank branches to withhold from MTC all amounts by which monthly telephone charges exceed levels approved by the local government. MTC has submitted to the city government’s demands. MTC officials note that the city is aware of MTC’s obligation to repay the loan for the Alcatel switch. MTC complains that, because municipal officials bear no responsibility for meeting this obligation, they opportunistically refuse to allow needed rate increases.¹³

¹⁰ Before the reorganization, revenues flowed to the central government or to the local exchange companies. The central government allocated funds for operations and capital investment through the regular budgeting process.

¹¹ Municipal officials and MTC representatives in Darkhan told the Study Team that local governments resent the centralization of control over local tariffs produced by the recent restructuring of Mongolia’s telecommunications regulatory scheme. City governments formerly had the power to set local tariffs, and the local exchange company retained all net revenues, which in turn were taxed by the local governments. The new regulatory system consolidates all tariff oversight functions in the MRTC, and the local exchanges now must surrender all income to MTC in Ulaanbaatar. Thus, the regulatory reorganization denied local governments control over tariffs and removed an important source of tax revenue.

¹² City governments assert authority over MTC’s rates by virtue of a provision in the recent telecommunications reform legislation that requires MTC to register its tariffs with local governments.

¹³ Tariff levels are not the sole point of contention between MTC and municipal governments. In recent months, the Darkhan city government also substantially raised the real property rents for the MTC local exchange. Unless such rents are abated in the future, the local MTC officials said they would need to petition MRTC for relief.

Third, there seems to be little recognition among **elected** officials that tariff increases are necessary if MTC is to accumulate the resources needed to upgrade Mongolia's outdated telecommunications **infrastructure**. If local officials are permitted to trump MTC rate increases, it is **difficult** to imagine how MTC will obtain the capital to increase capacity and add services.

Fourth, MTC's efforts to set rate levels and MRTC's oversight of proposed tariffs suffer **from** a variety of methodological problems. Only recently has MTC begun to develop economically meaningful cost and accounting data that can provide a reliable basis for setting tariffs and **performing** other vital business functions. MRTC's review of MTC's tariffs appears to take place without the use of a **well-defined**, clearly articulated methodology. There is no readily ascertainable basis upon which MTC (or its principal users) can predict how the Ministry will evaluate tariffs.

Reform Initiatives: Privatization. The privatization plan provided for a draft law to be introduced in the near future. The draft law would privatize MTC, with the government retaining a 51 percent ownership share.¹⁴ Advocates of privatizing MTC have offered two principal justifications. First, privatization may afford MTC **greater** independence **from** MRTC **and** thereby **reduce** the Ministry's interference in operational decisions. However, recent experience makes it unclear that the hoped-for separation **will** occur. MTC officials indicated that MRTC has balked at proposals to allow MTC, as an interim measure toward achieving privatization, to establish an independent governing board of directors. The Ministry's reluctance to **permit** the formation of a governing board apparently stems from MRTC's concern that such a board would act as a buffer between MTC and the Ministry and thus reduce the Ministry's control over the utility.

Second, privatization may give MTC greater incentives to control costs and improve productive **efficiency**. Privatization would encourage the development of a **commercially meaningful** accounting system to enable MTC to determine its costs and revenues **accurately**.¹⁵ Privatization also might place MTC in a stronger position to eliminate unnecessary positions in its **workforce**¹⁶ and to make investments in new plant and equipment.

Realizing these **efficiency-related** goals would depend on how the government chooses to exercise its majority ownership interest. On the one hand, the government might act as a passive investor and leave major strategic decisions about employment and investment to MTC. On the other hand, the government could vote its controlling interest to require continued adherence to previous employment policies. The **government** also might insist that net revenues mainly be paid out as dividends to the national treasury, rather than being dedicated to investment in new facilities. Short term pressures to maximize government revenues could seriously impede the modernization of **MTC's**

¹⁴ In interviews with the Study Team, MTC **officials** indicated their receptivity to substantial levels of foreign investment, including interests exceeding 51 percent of MTC's shares. MTC management indicated that the MRTC would contemplate foreign investment up to approximately 20 percent.

¹⁵ As Wilkinson and Greig (1991) noted in their study for the Asian Development Bank, efforts to assess MTC's underlying financial condition **and** prospects for improvement are hampered severely by the lack of reliable data on the utility's income and costs.

¹⁶ MTC's workforce currently totals approximately 6250. Approximately 4800 of these perform functions related to telecommunications, with the remainder **devoted** to postal services and other MTC responsibilities.

network.

There is no obvious reason to expect the Mongolian government to act as a passive investor and to forego efficiency-reducing intervention in MTC's affairs. Indeed, privatizing with 51 percent government ownership -- particularly without an effective mechanism for private shareholders to participate in the firm's management, a common feature of existing privatization efforts in Mongolia -- could reduce accountability by providing the illusion of substantial private control while retaining for the central government the power to shape MTC's behavior without regard to efficiency considerations.

To make clear the responsibility for performance outcomes, it might be better to maintain complete public ownership, but to shift the emphasis to increasing the transparency of regulatory decision-making and to emphasize reliance upon well-accepted technical criteria for setting rates **and** other conditions of service. Based upon Mongolian privatization experience to date, there is little basis for predicting that privatization plus 51 percent public shareholding will offer much improvement over complete **government** control.

Establishing a New Regulatory Structure. Market economies have used **essentially** three institutional approaches for regulating the conduct of public utilities. One approach is to include the regulatory entity (i.e., the body with oversight authority over tariffs and conditions of service) within a ministry with overall supervisory responsibility for the sector. In the United States, for example, regulatory oversight authority for interstate transmission of electricity, petroleum, petroleum products, and natural ~~gas~~ is vested in the Federal Energy Regulatory Commission (FERC) -- an adjudicatory body that resides within the Department of Energy (DOE), an executive branch ministry. FERC consists of a panel of five commissioners who are appointed for fixed terms and are removable only for serious misconduct. **FERC's** decisions are appealable directly to the federal courts of appeals without further proceedings within DOE.

A second model consists of establishing **an** independent regulatory authority outside of any existing ministry to execute policy-making and regulatory functions for a single sector. In the United States, the Federal Communications Commission (FCC) is an independent commission with oversight and regulatory powers for interstate communications. The FCC is headed by a panel of five commissioners appointed for fixed terms and subject to removal only for serious misconduct. The FCC's decisions are appealable to the federal courts of appeals.

A third approach is to adopt an institutional model used widely by state governments in the United States. This approach entails the formation of an "umbrella" public utility **commission (PUC)** that oversees rate-setting and fulfillment of service obligations for all public utilities. Like their counterparts at FERC and the FCC, PUC commissioners usually serve for fixed terms and are removable only for good cause. Judicial review of PUC decisions ordinarily is available before the appellate courts of the state in which the PUC is located.

It would be possible to supplement the umbrella commission's operations with policy-related oversight by an executive ministry. A major advantage of consolidating regulatory oversight in a single commission would be to conserve public resources and to make the most of the skills of the relatively small number of individuals who have relevant expertise in business, economics, and law. As many state governments in the United States have found, there are economies of scale and scope in having a single commission oversee more than one natural monopoly industry. These economies arise

because similar conceptual issues (particularly in setting tariffs) arise in many public utility settings.”

Whether it is located within an existing ministry or stands alone as a distinct entity, **it is** important to equip the regulatory board with **tools** that ensure that it is able to exercise independent judgment and reach decisions on the basis of clearly articulated technical criteria. Regulatory board members should consist of experts appointed for fixed terms and protected against dismissal except for serious misconduct. Experience with regulatory bodies in numerous market economies demonstrates that the recruitment and retention of capable commissioners and a competent professional staff are prerequisites to success. Other **institutional** essentials include adequate information-gathering powers, an effective system of sanctions for noncompliance, procedural safeguards to allow participation by affected **parties**,¹⁸ public dissemination and publication of agency decisions, and judicial review of agency action.

Operating an effective regulatory regime demands the expenditure of real social resources. Commissioners must be recruited, a capable staff must be employed, and judges must be trained to **make intelligent assessments of disputes that are appealed from the regulatory authority**. Moreover, **affected firms** must recruit legal and economic experts to navigate them through the regulatory process.

The evaluation of proposed institutional models for regulating public utilities in Mongolia must **account** for severe resource limitations. Few Mongolians currently have the relevant expertise, and most of **these** have been **drawn** by higher salaries **from** government bureaus into the private **sector**.¹⁹ To establish a credible regulatory **office** initially would require a minimum commitment of ten to **fifteen** professionals (including a panel of three **commissioners**).²⁰ Solutions to the resource dilemma might be found from several sources. For example, Mongolia's indigenous expertise could be augmented by technical assistance programs through which foreign governments detail skilled professionals to the Mongolian government. Personnel needs also might be satisfied in part through the **recruitment, on a part-time basis, of academics or business officials to serve on the regulatory body**, subject to conflict of interest restrictions.

¹⁷ See Crew and Kleindorfer (1986); Spulber (1989).

¹⁸ One of the most **useful** functions of an antimonopoly agency would be to advocate reliance upon **competition-oriented policies** by other government agencies. The legislation that creates the new regulatory apparatus might **include** a provision that allows the new antimonopoly entity to participate in the regulatory authority's proceedings to address the competitive consequences of contemplated actions.

¹⁹ This **pattern** is especially pronounced for Mongolian professionals with foreign language skills.

²⁰ Ensuring that the new entity has sufficient resources to engage in genuine oversight and law enforcement would be essential to establishing the credibility of the regulatory scheme. Several Mongolian officials emphasized that recent lawmaking efforts have underestimated the importance of providing an effective mechanism for enforcing new legal commands.

Whatever the exact **form** of the future public utility regulatory apparatus.” it is essential that the enabling legislation clearly delineate the new institution’s power to approve rates. In particular, the existing telecommunications statute should make clear that the national regulatory commission has power to override objections to tariffs posed by local government authorities.”

D. Policy Implications and Directions for Further Research

Coupled with the work of other researchers, the IRIS Team’s study of the Mongolian telecommunications sector suggests five central components of a program for regulatory reform.

- Clearly Defined Regulatory Responsibilities. The regulatory mechanism must unambiguously **define** the national regulatory body’s authority and must preempt efforts by local government officials to override decisions concerning tariffs and other conditions of service.
- Establishment of an Independent Regulatory Body. Regulatory oversight responsibility is best vested in an independent government entity that operates **free from** control of an **existing** government ministry. This organizational model would tend to reduce destructive **political** interference in the regulatory body’s affairs.
- Adoption of Well-Defined Technical Criteria for Setting Tariffs and Other Conditions of Service. The regulatory body should rely upon clearly-articulated technical criteria in exercising its oversight responsibilities concerning rates, quality of service, investment, and other matters affecting Mongolia’s telecommunications sector.
- Transparent and Accountable Regulatory Procedures. The public utility oversight entity should be required to announce contemplated regulatory actions *ex ante*, to provide pre-decision opportunities for **affected** parties to be heard, and to submit its decisions for *ex post* judicial review.
- Reliance on Competition Strategies. The regulatory body should exploit competition as a technique for motivating MTC. Regulatory policy should focus on opportunities to use entry by rival service providers to increase product offerings, improve quality, reduce prices, **and** boost output. In many instances, the availability of competition may obviate the need to engage in direct regulation of prices.

²¹ **Ordover** and **Pittman** offer an interesting institutional alternative to using a public regulatory commission in economies undergoing the transition from central planning to markets. They suggest that some regulatory functions be given to the new antimonopoly body. The antimonopoly agency could be authorized to compel dominant **firms** to roll back unreasonable prices. **Ordover** and **Pittman** suggest that one virtue of this approach is that an antimonopoly body with economy-wide competition-policy-making functions is less prone to capture by special interests than a regulatory commission that focuses solely upon a specific industry or to a small set of industries. Such an approach deserves careful consideration in Mongolia, as well.

²² As with other interested parties, local governments would have the opportunity to participate in the **rate-making process** by submitting, views **about** the appropriateness of existing or proposed tariffs. However, **local** governments no longer would function as gatekeepers with power to void rates that the national regulatory authority had approved.

To test the observations contained in this study and to develop a fuller basis for reforming Mongolia's mechanism for regulating natural monopolies, it would be useful to examine other industries. The methodology used to conduct the telecommunications sector study could usefully be applied to one or more of Mongolia's other natural monopoly industries. An important initial candidate would be the electric power and heating sector. 'A follow-on study of electric power and heating would provide a valuable comparison with telecommunications and would assist in devising the mechanism for future public utility regulation.

PART III

Meat Processing Industry Study

A. Introduction

Mongolia is a country of about 2 million people and 25 million livestock--sheep, goats, cattle, horses and camels. Sheep and goats account for **about** 19 million of the 25 million livestock. **DANAGRO** estimates that in 1989 agriculture contributed 20 percent to the Mongolian Net **Material Product**, and livestock accounted for **about 70 percent of the agriculture contribution**. (Mongolia does **have** some production of poultry and eggs, but the Study Team obtained no information about this aspect of the livestock industry and it is not further considered here.) Meat is a **dietary** staple with important cultural significance in Mongolia. This fact serves as a note of caution about drawing **conclusions** as to the proper functioning of the Mongolian meat production system. The importance of meat underlies the stress in the meat industry revealed by this study.

Mongolia has vast pastures. It is a relatively dry and relatively cold country, with a short growing **season**. It has inadequate roads and **transportation** facilities, and inadequate communications facilities. These conditions affect the meat industry--for example animals are herded or "trailed" to slaughter at the largest meat plants, rather than being shipped. (In the United States animals are shipped to **slaughter usually** by truck, and a **slaughter plant will often purchase most** of its animals within a **150-mile** radius of the plant. Adequate transportation and communication facilities, in **countries** where **they exist**, tie together markets that are otherwise separated geographically and **permit** wide dispersion of information about prevailing market prices anywhere in the country.) Mongolia's largest meat plants only slaughter in the period July to December, when animals can be trailed **and when they must be slaughtered because there is insufficient fodder to winter them over**. There is also a phenomenon in **Mongolia** called "traditional slaughter", which is done manually or on a household basis rather than by a meat processing facility.

Mongolia is a country undergoing the transition from socialist central planning to a market economy. As such, the various aspects of its economy are in incomplete stages of transition. For **example, where livestock were once all owned by the state, nearly all of the herds are now privately owned**. The largest meat plants are in various stages of privatization, but the central government has and apparently intends to retain a majority ownership in each.

Meat is subject to rationing in major urban areas. The General Director of the **Darkhan** meat plant explained that city central procurement agencies place orders with the meat plant for meat to be supplied at a fixed price. A meat plant has to satisfy these orders first, before it can consider selling meat at negotiated, market prices. There were indications that the prices at which plants sold meat had doubled between 1989 and 1991.

B. Description of the Industry

This industry study is concerned with two markets--the production of meat and the purchase of animals for slaughter. The first part of this section deals with the market for the production and sale of meat. The second part deals with the procurement of live animals.

1. The Production of Meat

Most of the consideration here will be given to the production of fresh meat, which is sold or frozen for later use. The production of fresh meat is a relatively low value-added process--in the typical case animals are purchased, they are slaughtered and their meat is sold. Animals are often bought by the live-weight pound, and meat is sold by the pound. ~~The entire~~ production process, ~~from~~ purchase of animal to sale of meat, often will take only a few days. By far the largest portion of meat processing cost is the cost of acquiring animals for slaughter. Meat processing can also include the production of processed meats, such as sausage.

There are three large Mongolian meat processing plants. one in Ulaanbaatar, one in **Darkhan** and one in Choibalsan. **Darkhan** is about 250 kilometers north- of Ulaanbaatar. and Choibalsan is about 750 kilometers east of **Ulaanbaatar**. In general they ~~slaughter~~ sheep, cattle and goats, with some hogs, horses and camels--producing whole carcasses, which are sold fresh or frozen and sold later. Some indications of the relative sizes of these three meat plants can be seen from total sales for 1989 and 1991. The following chart shows sales ~~of~~ all products including meat, in millions of **tugriks**, for each of the large plants:

	<u>Ulaanbaatar</u>	<u>Darkhan</u>	<u>Choibalsan</u>
1989:	319,185	107,207	90,873
1991:	657,546	167, 019	133, 143

(The large increases in sales between 1989 and 1991 reflect primarily inflation and large increases in selling ~~prices~~.) Similar indications ~~can~~ be seen in the total numbers of certain types of animals killed in 1989 and 1991 at these three plants:

SHEEP:

	<u>Ulaanbaatar</u>	<u>Darkhan</u>	<u>Choibalsan</u>
1989:	937,663	334,719	311,460
1991:	766,900	209,565	231,211

GOATS:

	<u>Ulaanbaatar</u>	<u>Darkhan</u>	<u>Choibalsan</u>
1989:	198,083	40,807	22,563
1991:	244,100	74,364	29,891

CATTLE:

	<u>Ulaanbaatar</u>	<u>Darkhan</u>	<u>Choibalsan</u>
1989:	98,089	37,174	28,963
1991:	80,400	36,317	25,368

These are not the only meat plants that slaughter livestock in Mongolia, but they are the only ones for which data was secured. There are smaller plants at Saynshsaud in Domogovi Aimag southeast of Ulaanbaatar and at Ulstay in Dzavhan Aimag west of Ulaanbaatar. In addition, there is apparently some slaughter **carried** out in aimag centers.

DANAGRO estimated that in 1989 of the total Mongolian live-weight supply of meat, approximately 60 percent was slaughtered in the **aimags** or by home slaughter, all **for** local consumption. Another 14 percent was exported as live animals or meat products. Thus 26 percent was supplied to the cities, such as Ulaanbaatar, **Darkhan** (and Erdenet, which the **Darkhan** meat plant supplies), and **Choibalsan**. However, of this 26 percent almost one-third was slaughtered locally and delivered to the cities. Even though there is a meat plant in each of the three cities, it is thus clear that meat is supplied to these cities **from** other sources as well.

This DANAGRO information is roughly consistent with information learned in the Study Team's interviews. According to Surenjargal, the Vice-Minister of Agriculture, of the 7 million animals slaughtered in a year in Mongolia. 2 million are killed in the three urban meat plants and the rest are slaughtered in aimag centers or by traditional slaughter. No one knows, he said, precisely how much meat from traditional slaughter comes into Ulaanbaatar. The General Director of the **Ulaanbaatar meat plant** said the plant kills **from** July to Dcccmber, **and sells** some and **freezes some** of its carcass slaughter as it goes. The Ulaanbaatar plant can store 16,000 tons of frozen carcasses, which is less than two months' supply. It stops killing in December but the aimag centers then slaughter for **shipment** to **Ulaanbaatar**. The frozen **meat at the Ulaanbaatar meat plant** is not **used until** June or July, just before the new slaughter begins. The General Director estimated that the Ulaanbaatar plant supplied about 50 percent of the meat consumed in Ulaanbaatar.

The General Director of the **Darkhan** meat plant said that as much as 20 percent of its production has been shipped to Ulaanbaatar in the past, usually in the November • February time **frame**. This plant serves four areas in addition to **Ulaanbaatar--Darkhan**, Erdenet, **Sukbataar**, and one other. The plant regularly ships 180 kilometers to Erdenet. When one of these areas needs additional meat, it turns to local slaughter.

Surenjargal said that the government was not building new slaughter facilities in the country, but rather just completing facilities started under the old system. These are primarily small facilities **but** the idea is to have slaughter capacity **closer** to animals to reduce the losses when animals are trailed over long distances to the large cities. He could not say how much was being spent on new small facilities. In a number of instances the new facilities are being set up as shareholding companies, and **local governments** may be using barter trade to get access to meat processing equipment. The Ministry fully supports private slaughtering **plants**, Surenjargal said, but does not expect substantial entry in Ulaanbaatar with the existing overcapacity.

There is a real possibility of new entry into meat processing. Dovdon began as a worker at the Ulaanbaatar meat plant and rose through the ranks to become a deputy director. He has now started a

privately owned meat plant in Boganu, a “satellite” town about 130 kilometers from Ulaanbaatar. He has been using traditional slaughter and the parts of his slaughter line that are operational. He expects his investment to be about 8 million tugriks, including a building costing 5 million tugriks for which he will pay over time. He **expects to be able to supply Boganu, to ship to Ulaanbaatar by train, and also** to export meat to Russia. As a rough measure of expected output, Dovdon expects to have ‘about 300 tons of frozen storage.

2. The Purchase of Livestock

Under the old central planning system livestock was owned by the state. Allocation and delivery orders were issued to the aimag centers, which then arranged for animals **to** be delivered as specified to the various meat plants. Elaborate scheduling charts were worked out in May for the coming slaughter season at the big urban meat plants.

With the privatization of the herds and the nominal elimination of the central allocation **system, central allocation and** delivery orders no longer control the procurement of livestock for **meat** plants. It is by no means clear what has replaced the old system, but there appear to **be** many opportunities for competition in procurement.

Apparently May 1992 an effort was made by two or three of the urban meat plants acting in concert to acquire the animals needed for slaughter at a single price to which it was hoped all livestock owners would agree. This price was 20 tugriks per live kilogram of sheep delivered for slaughter. The General Director of the Ulaanbaatar meat plant knew for sure that the sheep being slaughtered in his plant on November 3, 1992, had cost 20 tugriks per live kilogram because that is what had been agreed for all sheep to be slaughtered there during the 1992 season. (We were informed that the current price on the Ulaanbaatar Commodity Exchange for live sheep was 40 **tugriks** per live kilogram.)

There are a couple of peculiarities with respect to the live prices paid for slaughter animals. It seems unusual that in an economy with relatively high inflation, sellers of slaughter animals would agree to forward **contract** for months in advance at firm prices. But sheep were being delivered for slaughter in **November that** had been forward contracted in May at a **firm** price. Second, livestock sellers were receiving a single live price not reflecting quality differences even though the large meat processing plants were selling meat with three quality grades at different prices. The pricing system is not yet translating better sales quality into higher prices for livestock producers who produce better animals.

The General Director of the Ulaanbaatar meat plant said that of the 18 aimags in Mongolia, his plant was assigned and drew animals from ten of them, from aimags as close as 45 kilometers and **from** as far away as 1200 kilometers. The **Darkhan** meat plant drew **from** four aimags. However, in some instances where an aimag was approximately midway between two urban meat plants, animals **from** that aimag might go to either plant.

Both the Ulaanbaatar meat plant and the **Darkhan meat** plant reported having great difficulty in procuring animals for slaughter. At **Darkhan** the General Director said that in 1992 the plant would produce only one-third of the meat it had produced in 1991 and that it had already finished killing sheep in early November. One high-ranking **official** at the **Ulaanbaatar** meat plant speculated that the plant might soon be closed because it was getting so hard to obtain animals.

One other phenomenon was described -- the use of custom slaughter when meat plants could not acquire animals. In **Darkhan** and in other areas around the **Darkhan** meat plant, city governments were able to acquire animals for slaughter by paying more for the animals in cash or barter than the meat plants were willing to pay. The cities would then have the animals slaughtered on a custom basis for a fee by the urban meat plants, taking the meat for sale under rationing in the cities and arranging with the meat plants to sell or otherwise utilize the by-products. Cities and other local government units apparently had control over items of value to livestock owners and thus were in a better position than the meat plants to bargain for animals for slaughter. The General Director of the **Darkhan** meat plant expected that soon his plant might purchase animals only for meat to be exported, and that most of its slaughter would be on a custom basis for owners of animals.

Surenjargal, the Vice-Minister of Agriculture, explained his view that the **difficulties** the urban meat plants were experiencing in purchasing animals stemmed from the privatization of herds. The old system of allocation and central delivery orders is no longer viable. An attempt was made to place state orders for delivery and it did not work. Then special price levels were attempted to maintain the supply of animals for slaughter. The Vice-Minister expected that **efforts** would be made to keep sheep slaughter prices at 20 tugriks per live kilogram, but that herders (livestock owners) now wanted 25 tugriks per live kilogram. He also explained that city governments have some advantages in getting animals for slaughter because they can pay in cash, which meat plants **often** find difficult to get from banks, and they can barter with consumer goods that would otherwise be unavailable to the herders. Cities also have better contacts with livestock owners and more people to send out to purchase **animals** than do meat plants.

C. Comnetitive Analysis

The Mongolian meat industry does not operate today in a competitive fashion. Meat plants must sell a substantial amount of their production at rationing prices fixed by the government. **The meat plants** agree among themselves and with the govcmmnt **about the prices they** will bid for slaughter livestock. The meat plants are parties to formal or informal territorial divisions as to where meat will be sold and where efforts will be made to buy animals. The government has a majority ownership interest in the three **largest meat** plants. The competitive spur of profits and **expanding** market share is **largely absent**.

At **the same** time **there** are great opportunities for competition in the Mongolian meat industry. Meat plants could compete for slaughter animals. On the selling side, meat is already being shipped into the large cities where the largest meat plants are located.

It is **difficult** to construct Herfindahl-Hirschmann Indexes (**HHIs**) because of limited data, but some plausible ranges can be estimated. Suppose the three large meat plants were the only ones but they competed with each other across the same geographic area in the sale of meat and in the purchase of animals. Using the sales data from above, the **HHIs** would look like this:

<u>1989</u>	<u>1991</u>
Ulaanbaatar:	
Market Share 62% HHI 3844	Market Share 69% HHI 4761
Darkhan	
Market Share 21% HHI 441	Market Share 17% HHI 289
Choibalsan:	
Market Share <u>17%</u> HHI <u>289</u>	Market Share <u>14%</u> HHI <u>196</u>
TOTAL, 100% 4574	100% 5246

With **HHIs** in the 4000 to 5000 range this would be a concentrated market, which is what one would expect with **only** three competitors. However, if these three entities competed vigorously against each other, the result could be competitively satisfactory. **Vigilance against collusion would be** important with a such a concentrated market. Note **also** that while the Ulaanbaatar meat plant shows a market share in the range of 62-69 percent. its General Director said that this meat plant did not **provide more than 50 percent of the meat consumed in Ulaanbaatar.**

Even this limited data permits looking at possible market **HHIs** in another way. Dovdon and **Surenjargal both said that at present there are about 7 million animals slaughtered in Mongolia each** year. We can ask how much of that slaughter is accounted for by the three large meat plants, using the data above on the number of animals killed and adding to it the few horses killed at the **Ulaanbaatar and Darkhan** meat plants (Ulaanbaatar 1989: 3238; 1991: 2400; **Darkhan** 1989: 2400; 1991: 95).

There is a problem because while we know that these three plants account for only about 1.5 million of the 7 million animals slaughtered, we don't know how large (what market share) are the other slaughterers of animals and thus we do not know what market share to assign them. However, we do know the other slaughterers are all smaller than the smallest of the three plants, Choibalsan, which has about a 5-percent share of the total slaughter in 1989 and a 4-percent share in 1991. Thus to calculate **HHI** we will assume that all the remaining slaughter is done by plants holding a 5-percent market share in 1989 and a 4-percent market share in 1991. These assumptions will tend to overstate the **HHIs** but are sufficient for our purposes.

<u>1989</u>		<u>1991</u>	
Ulaanbaatar:			
Market Share 17.7%	HHI 313	Market Share 15.6%	HHI 243
Darkhan			
Market Share 5.9%	HHI 35	Market Share 4.6%	HHI 21
Choibalsan:			
Market Share <u>5.2%</u>	HHI <u>27</u>	Market Share <u>4.1%</u>	HHI <u>17</u>
TOTAL 28.8%	375	24.3%	281
14 firms @ 5.0%=70.0%	HHI <u>350</u>	19 firms @ 4 % = 76.0%	HHI <u>304</u>
TOTAL	725		585

The results here show an unconcentrated market.

However, care must be used in interpreting both sets of **HHIs**. The first set, based on sales, assumes that the three plants are in the same geographic market, for selling meat and for purchasing animals. It is not clear that in a market economy these three plants would compete with each other over the same geographic area. The second set, based on animals slaughtered, assumes that *all* Mongolian meat plants are in the same geographic market, consisting of all of Mongolia. This latter **assumption** is surely too strong, particularly given the underdeveloped transportation and communications systems in Mongolia. Hence, these **HHIs** understate concentration and can be **interpreted as lower bounds**.

One might also examine the potential for competition in the sale of meat in Ulaanbaatar by using assumptions similar to those employed above. The General Director of the Ulaanbaatar meat plant estimated that **the plant** supplied approximately 50 percent of the meat consumed in Ulaanbaatar, and its market share will be assumed to be 50 percent. The source of the other 50 percent is not known for sure, but assume it was produced by ten other plants each accounting for a **5-percent** market share. The **HHI** for the sale of meat in Ulaanbaatar would be 2750 (50 squared plus 10 times 5 squared). This would be a moderately concentrated market, and one likely to be **performing** satisfactorily.

There are a number of areas where more information about the Mongolian meat industry would be useful in evaluating the tentative conclusion that there is substantial room for **the play** of competitive forces that are not now being realized. These areas include:

- the meat rationing system and government allocation orders;
- **the** trailing system and the extent to which livestock owners can choose among slaughter options;
- transportation costs;
- retail meat establishments, and the manner in which such shops acquire meat;
- the role of exports of live animals and of meat;

- the effects of seasonality on the potential for competition:
- any significant competitive differences in the markets for sheep, goats, cattle, horses, hogs, and camels and their meat;
- the livestock procurement process and the role of custom kill arrangements; and
- local slaughter capacity in the aimags.

Suggestions for Antimonopoly Competition Law. The results of this industry study provide evidence of the kinds of restrictive business practices a Mongolian antimonopoly competition law should address. Agreements between competitors to fix prices, to allocate markets, and to divide selling areas are restrictive business practices usually condemned in a market economy. An antimonopoly law could prohibit these practices. In addition, at present there is common majority ownership (by the Government of Mongolia) of the three largest plants. A law on restrictive business practices could regulate "mergers" or provide for divestiture, or generally reach conduct by the government -- for example by providing that even where there is common government ownership the plants must behave as independent competitors. In addition, various other government regulations -- rationing, restrictions on exports, allocation orders, etc. -- serve to undermine the potential for competitive behavior in this industry.

APPENDIX

Mongolian Government Coordinator

Baivkhuu. Adviser to the State Commission for Privatization, Government of **Mongolia**

Researchers

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Erdenesan, Academy of State and Social Sciences (telecommunications)

Gulguu, Ulaanbaatar Wool Spinning Factory (wool spinning)

Hurelbaatar, Economics Department of the Mongolian National University (meat)

Jargalsaikhan, Academy of State and Social Sciences (wool spinning)

Tserenbat, Academy of State and Social Sciences (meat)

Interviews

Alгаа, Member of the Parliament of Mongolia

Amarsanaa, Vice Rector, Academy for State and Social Studies, Parliament of Mongolia

Boldbaatar, **General Director, Mongolian Telecommunications Company**

Deleg, General Director, Makhimpex Company (Ulaanbaatar meat plant)

Dovdon, private businessman starting his own meat plant in Boganu

Ganbaatar, General Director, Department of Communication and Information **Technology**, Ministry of Road, Transport and Communication, Government of Mongolia

Gerelchuluun, Secretary, State Commission for Privatization, Government of Mongolia

Jadamba, Marketing Director, Carpet Manufacture and Trade Company of Ulaanbaatar (**Ulaanbaatar** carpet factory)

Lhundev, General Director, **Darkhan** meat plant

Luvsanjav, Minister of Justice, Government of Mongolia

Munhjargal, General Director. Wool Spinning Factory

Niamjav, Economist. Wool Spinning Factory

Noroi. Accountant, Ulaanbaatar wool-washing factory

Ochirkuhuu, Member of the Parliament of Mongolia

Ounchimegue, Chief Engineer. Ulaanbaatar wool-washing factory

Surenjargal, First Vice Minister. Ministry of Agriculture

Timurhuu, Director, **Darkhan** Local Exchange, Mongolian Telecommunications Corporation

Tsedendagva, Chairman. Standing Committee on Economic Development and Infrastructure Policy, Parliament of Mongolia

Tsegmidiin, Law **Offices** of Lewis, **D'Amato**, Brisois, Bisgaard, Buxbaum & Choy, Ulaanbaatar

Tsevenjav, First Deputy Chairman of the Executive Committee, People's Khurai of **Darkhan**

Tumenjargal, Mongol Nehmel Company (textile **factory**)

Tungaiaque, Economist, Ulaanbaatar wool-washing factory

Uranbaatar, Department of Legal International Cooperation, Ministry of Justice, Government of Mongolia

Zunhuu, Financial Director, Mongolian Telecommunications Company

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